Islands, 500 miles to the westward, are a well-known example of thriving coral life.

W. J. L. WHARTON.

H.M. Surveying-Vessel "Flying-Fish," January 31, 1887.

Christmas Island is 190 miles from the nearest point of Java, from which it is separated by a depth of 2450 fathoms. It is formed of coral limestone, has no fringing reef, but rises abruptly from the sea in cliffs about 30 feet high, very much underworn, and in many places hollowed out in caverns; the shore is steep-to: generally a depth of 100 fathoms is found at one to two cables from the cliffs.

In appearance it is somewhat saddle-shaped, rising from a long back in the middle, 700 to 800 feet high, to hills at the north-eastern and at the western sides; the western summit is double, and is the best-defined mark: its height is 1580 feet. The shape is irregular quadrilateral; it extends through 12′ of latitude, and about the same in longitude.

The island is densely wooded all over, except where the cliffs are too steep to allow anything to grow. From the northern side the ascent is gradual to the highest parts; but on the southern side, after rising gradually for half a mile from the sea cliffs, a second wall of limestone cliffs is met, estimated at 200 to 300 feet high, and thence slopes gently again to the top.

The shore cliffs are almost continuous, making the island inaccessible except at a few places. These cliffs are split by deep fissures extending several feet below water; where these have become enlarged, and the adjacent cliffs have fallen in, a small white beach of fragmentary rock is thrown up, and at such places on the lee-side landing can be effected.

From the blown direction of the trees on the south side, and from the weather-worn aspect of rocks exposed to the southward, it is manifest that the south-eastern is by far the prevailing wind.

The north side of the island forms a large bight, in which the water is quite smooth, so that a boat can go close up to the cliffs, but on the southern and eastern sides a heavy sea dashes against the rocks.

The *Flying-Fish* steamed close round the island looking for anchorage, but found none, except in a small cove two miles to the westward of the north point of the island—this has been named Flying-Fish Cove; here she anchored in 22 fathoms, with her stern secured by hawsers to the trees, to prevent slipping off the bank.

The hill rises nearly perpendicularly at the head of the cove in the form of a horseshoe, and slopes gradually down to the two arms forming the cove. The bare beach is not more than 20 yards wide, and, from the look of the fragments that compose it, must be thrown up in northerly gales; the upper part of the beach to the foot of the hill, a distance of some hundred yards, is of just the same material, viz. fragments of coral rock and coral limestone, but it has a covering of mould from fallen leaves, and is thickly wooded, many of the trees on it being forest trees of 12 feet girth and of great height, apparently hundreds of years of age, showing that a very long time must have elapsed since that beach was raised from the water.

One very large tree had something like the letters **W W** cut inside a scroll, and nearly illegible from time; this was the only sign of the island having been visited before; but one of our officers heard at Batavia that a Dutch vessel was wrecked on the south-east point of the island in a calm about fifteen years ago, and that the crew escaped and lived many months on the island before they were taken off, but I have no other details about the affair.

No running water was seen, but the droppings from the leaves during rain and dew must be great, as holes in the rocks and cup-shaped leaves were filled with water. As it was raining over some part of the island (generally the western) great part of the time the *Flying-Fish* was in the neighbourhood, and clouds were continually being formed over the island from the moist air driven up the side by the south-east wind, a great deal of water must be deposited, and probably be absorbed by the soil. At the eastern end of the cove, among the trees, where had seemed at first the most likely place for a watercourse, a few volcanic stones were found, but everywhere else the only rock seen was coral limestone; the cliffs above from which detached pieces had fallen to the beach were the same; the soil under the trees was a rich moist mould, apparently formed from decaying vegetation.

Landing was also effected at another small beach in the northern bight near the north-west point; the general features were the same, but there was no anchorage at half a cable from the shore. A few cocks and hens were landed here, but as the crabs immediately began to chase them, I doubt if they will survive and produce.

No large animals were seen, nor marks of any. An iguana, said to be 4 feet in length, was seen in a tree, high up, but was not captured. Rat-holes were numerous, and one rat was secured, also a large bat. Several insects, spiders, flies, beetles, and butterflies, were collected; there were sand-flies, but no mosquitoes. Large crabs were very plentiful, and appeared equally at home running over the sea-cliffs and climbing up the trees; they were very ravenous, pouncing quickly on a dead gannet and devouring other injured crabs, and they must be terrible enemies to the birds generally.

Gannet and frigate-birds frequent the island, and evidently breed there, but it was not the breeding-season, and very few eggs were found; the young birds were nearly grown. Besides the sea-birds there was the large green Torres Strait pigeon: one was shot, with three large red berries in his crop. These pigeons seemed to frequent the higher trees well up the hill. Also a ground-thrush, of a sooty-brown colour, just the colour of the fallen leaves among which it ran nimbly, apparently looking for insects; and a little fly-catcher of the same sombre colour. As evening advanced, a small swift appeared, which flew about the jungle on the margin of the beach, fly-catching: none of these three last were secured. No bones were found on the beach, nor remnant of any animal; not even turtle-remains.

The flora appeared to be the same as that of the neighbouring islands, the Moluccas. As before stated, the island is densely wooded, and many of the trees attain great size. Chief amongst them I recognized two iron-wood trees, one with straight stem and round trunk, and the other with strong buttresses from the roots; both are natives of Celebes. Creepers were as thick as in the Moluccas, and covered the top branches of the trees.

Two palms—one I take to be the sago-palm, growing to a great height; and the pandanus—were abundant: cocoanut trees were not seen, though husks were found on the beach, apparently washed up from elsewhere. At a small beach on the eastern side there appeared to be banana-trees, but they looked withered and there were no signs of fruit.

No mangroves were seen: the flora of the coast was generally such as is found in all tropical islands.

I regret to say that nearly all the botanical specimens that were collected were destroyed by insufficient drying in the exceedingly damp weather we experienced.

(Signed) J. P. MACLEAR,
Captain.

NOTES.

ON March 9, on the invitation of the Chief Justice of Queensland, a public meeting was held at Brisbane, to consider the establishment of a University for that colony. A resolution was passed inviting ministers of religion, the various professions, and every representative body to petition Parliament to establish a University for Queensland in perpetual commemoration of the Jubilee year of the Queen's reign. A Committee was appointed to prepare a petition and make arrangements for united action.

ACCORDING to the *Calcutta Englishman*, the Indian Government has arranged a scheme for the complete and systematic botanical survey of India. The country will be divided into four great districts, the first under Mr. Duthie, Superintendent of the Government Botanical Gardens at Saharunpur; the second under Surgeon-Major King, Superintendent of the Royal Botanical Gardens at Calcutta; and the third and fourth under the Madras and Bombay Government Botanists respectively.

THE rich flora of the Philippine Islands has hitherto been most imperfectly known. In fact, it has been practically only represented in European herbaria by the collections of Cuming, which, though rich, were made in a limited area. It was only, therefore, to be expected that the explorations made by Dr. Sebastian Vidal, of Soler, Director of the Botanic Garden at Manilla, and of the Commission for studying the forest flora, would add to our knowledge a profusion of new and interesting species. Dr. Vidal has on two occasions visited Kew with his collections, which have quite realised the expectations that had been formed of them. There was some reason to fear that the work might, on financial grounds, have to be interrupted. But from a communication made to Kew by the Spanish Minister, we are glad to learn "that although the Botanical Survey Commission intrusted to Dr. Sebastian Vidal had been at one time suppressed in the Budget of 1887–88, it was afterwards re-established in view of the great importance of the work."

THE thirty-sixth meeting of the American Association for the Advancement of Science will be held in New York during the week beginning August 10, 1887. The New York Academy of Sciences has appointed a Committee to secure concert of action among those who are anxious that adequate preparations may be made for the meeting.

IN his speech at the Royal Academy banquet, Prof. Huxley offered some suggestive and interesting remarks on the relations between science on the one hand and art and literature on the other. "I imagine, he said, "that it is the business of the artist and of the man of letters to reproduce and fix forms of imagination to which the mind will afterwards recur with pleasure; so, based upon the same great principle by the same instinct, if I may so call it, it is the business of the man of science to symbolize, and fix, and represent to our mind in some easily recallable shape, the order, and the symmetry, and the beauty that prevail throughout Nature. I am not sure that any of us can go much further from the one to the other. We speak in symbols. The artist places his colours upon the wall; the colours have no relation to the actual objects, but they serve their purpose in recalling the emotions which were present when the scenes which they depict were acted. I am not at all sure that the conceptions of science have much more correspondence with reality than the colours of the artist have; but they are the symbols by which we are constantly recalling the order and beauty of Nature, and by which we by degrees force our way further and further into her penetralia, acquiring a greater insight into the mystery and wonder which are around us, and at the same time, by a happy chance, contributing to the happiness and prosperity of mankind." Referring to the fact that in these days scientific men are in danger of becoming specialists, occupied with a comparatively small field, Prof. Huxley maintained that the remedy lies in the recognition of "the great truth that art and literature and science are one, and that the foundation of every sound education and preparation for active life in which a special education is necessary should be some efficient training in all three." He concluded as follows:—"I sincerely trust, Sir, that, pondering upon these matters, understanding that which you so freely recognise here, that the three branches of art and science and literature are essential to the making of a man, to the development of something better than the mere specialist in any one of these departments—I sincerely trust that that spirit may in course of time permeate the mass of the people, that we may at length have for our young people an education which will train them in all three branches, which will enable them to understand the beauties of art, to comprehend the literature at any rate of their own country, and to take such interest not in the mere acquisition of science, but in the methods of inductive logic and scientific inquiry as will make them equally fit, whatever specialised pursuit they may afterwards take up. I see great changes; I see science acquiring a position which it was almost hopeless to think she could acquire. I am perfectly easy as to the future fate of scientific knowledge and scientific training; what I do fear is, that it may be possible that we should neglect those other sides of the human mind, and that the tendency to inroads which is already marked may become increased by the lack of the general training of early youth to which I have referred."

THE first edition of "Scenery of Scotland viewed in Connexion with its Physical Geology," by Mr. Archibald Geikie, was published twenty years ago. It was one of the first books in which the origin of the scenery of a country was traced out in some detail with reference to geological structure. Since the appearance of the work, the author has extended his experience by journeys all over Europe and through the western territories of America, and he is engaged, we understand, upon a general treatise on the origin of the surface features of the land. In the meantime, in response to repeated requests, he has prepared a new edition of his first work on the subject—the "Scenery of Scotland." The book has been thoroughly revised and in great part re-written. The illustrations are almost all new. It is expected that the volume will be ready in time for the visitors who crowd into Scotland in the summer and autumn.

MESSRS. KEGAN PAUL, TRENCH, AND CO., will publish immediately "Three Lectures on the Anatomy of Movement: a Treatise on the Action of Nerve Centres and Modes of Growth," delivered at the Royal College of Surgeons by Dr. Francis Warner, Hunterian Professor of Comparative Anatomy and Physiology.

REGULARLY during twenty-five years, on the first of each quarterly month, Mr. Van Voorst published a part of Hewitson's "Exotic Butterflies," containing coloured figures of new species. The work was completed a few years ago. Since that time, material for its continuation has accumulated in the collection of Mr. Henley Grose Smith, who will now, with the assistance of Mr. W. F. Kirby, bring out another series under the title of "Rhopalocera Exotica." Part I will be published by Mr. Van Voorst's successors, Messrs. Gurney and Jackson, in July.

In continuation of Hooker and Baker's "Synopsis Filicum," a hand-book of the other orders of Vascular Cryptogamia, by Mr. J. G. Baker, will be published shortly by Messrs. G. Bell and Son. It will include Equisetaceæ, Fycopodiaceæ, Selaginellaceæ, and Rhizocarpeæ, in which, excluding the fossil types, there are eleven genera and about 700 species.

MR. ARTHUR DENDY, B.Sc. of the Victoria University, and Associate in Science of Owens College, has been appointed by the Trustees of the British Museum an Assistant in the Department of Zoology in the vacancy occasioned by the resignation of Mr. Stewart O. Ridley, whose work in connexion with the sponges and corals Mr. Dendy will continue. The vacancy in the Botanical Department occasioned by Mr. Fawcett's appointment to the Curatorship of the Botanical Gardens in Jamaica has been gained, after competitive examination, by Mr. Edmund Gilbert Baker, a son of the well-known botanist of Kew Gardens.

The Council of the British Medical Association have recently appointed Mr. Watson Cheyne and Dr. Sidney Martin as Science Scholars for one year. The former proposes to continue his research of Bacteria in relation to disease, and the latter to carry on researches on the vegetable albuminoses, especially with relation to their alleged toxic action.

On Monday last, Mr. J. M. Thomson delivered the first of the concluding course of Cantor Lectures at the Society of Arts. The remaining lectures of the course will be delivered on May 9, 16, and 23. The subject is the "Chemistry of Substances taking Part in Putrefaction and Antisepsis."

Another synthesis of a natural product has just been added to the long score of successes which have followed Wöhler's initiative. About a dozen years ago it was observed that the outer coatings of walnuts collected at the end of June became covered with small yellow needle-shaped crystals, of a substance which was found by Vogel and Reischauer in the expressed juice of the same, and named by them nucine or juglon. Bernthsen and Semper have very recently (*Ber. Deut. Chem. Ges.* 1887, No. 6) proved conclusively that this substance is an α-hydroxy-α-naphthoquinone, $C_{10}H_5O_2(OH)$, and to complete the proof have actually built up the same substance directly from naphthalene. They first prepared α_1 α_3 dihydroxynaphthalene, $C_{10}H_6(OH)_2$, by Armstrong's method, which was then oxidized by chromic acid; the brown precipitate obtained was afterwards digested with warm ether, and after removal of the ether by distillation, crystallization from chloroform yielded beautiful acicular crystals identical in all respects with juglon, of nutshell odour, producing violent sneezing. As naphthalene itself can be built up from its elements, it follows that juglon, undoubtedly a product of vegetable growth, has been synthetized by artificial means.

Some important observations on the structure and origin of the gelatinous sheath which invests the filaments of many Algæ, and also some Flagellata, have recently been published by Herr G. Klebs. In the Zygnemaceæ this sheath is composed of a substance entirely independent of the cell-walls. It consists of two portions: a homogeneous substance which is but slightly refringent, and which is indifferent to the action of staining reagents; and a portion which absorbs pigments with avidity, and which is composed of minute rods at right angles to the cell-wall. This substance does not exhibit the reactions of the ordinary mucilage of vegetable cells; it is not dissolved by alkalies. The author maintains that the substance of the sheath is derived directly from the cytoplasm of the cell through the cell-wall; it is always quite distinct from the cell-wall, and must be formed by apposition rather than by intussusception. Similar results were obtained from the gelatinous sheath of the Desmidieæ and of some other Algæ. A gelatinous sheath can be detected in nearly all the Flagellata by the use of sufficiently dilute staining materials; and here, also, the sheath is due directly to the activity of the protoplasm. In *Euglena sanguinea* it is secreted in the form of more or less curved filamentous bodies. In the social forms the gelatine consists of a fundamental substance, immersed in which are denser granular corpuscles. The brown or black colour is due to the deposition of oxide of iron.

The preparations for the making of a canal between the Baltic and the German Ocean are so far advanced that the construction of the earthworks will be begun on June 18.

On March 17 we stated in a note that the Berlin Academy of Sciences had granted a sum of money "for the printing of some important zoological works," among which we mentioned Dr. Taschenberg's "Bibliothek." Herr Engelmann, the publisher of the "Bibliothek," writes to us that the grant was made to Dr. Taschenberg personally, in recognition of his labours as editor, and that it does not in the slightest degree diminish the publisher's responsibilities in connexion with the work.

The Council of the Parkes Museum believe that there are many medical men who would be glad to make use of the Museum under the guidance of someone able to point out the object and advantages of the various appliances exhibited. They have therefore arranged, for the month of May, three demonstrations, which will be open to all members of the medical profession on presentation of their cards. Prof. W. H. Corfield has consented to give a demonstration on Monday, May 9; Mr. Rogers Field on Monday, May 16; and Mr. Percival Gordon Smith on Monday, May 23. The demonstrations will begin at 5 p.m.

Six years ago a seaside laboratory for the study of biology was started at Annisquam, near Cape Ann, by the American Woman's Education Association. The Society, which does not give permanent support to any of its enterprises, has always been anxious that this institution should be placed on a secure basis; and accordingly a circular letter was lately sent to teachers of science in different parts of the United States, giving an account of the work done, and asking for opinions as to the need of such an establishment. The answers were so satisfactory that a number of naturalists met to consider the question; and this meeting appointed a Committee with full power to establish a new and greatly improved laboratory. An appeal for 15,000 dollars has now been issued, and if the response is liberal, the laboratory may be opened in the summer of the present year.

The Italian Meteorological Society reports that its observer at Patagones (lat. 40° 49′ S., long. 62° 45′ W.), while taking observations at 2 a.m. on December 1 last—observations being then taken every two hours—was surprised by a continuous shower of innumerable shooting-stars proceeding from all visible parts of the sky. They were of varying brilliancy, the majority appearing to be of the brightness of stars of the second and third magnitude. He was unable to take an exact observation, for want of necessary materials; but during the fifteen or twenty minutes that he stood observing them, the stupendous display constantly maintained the same intensity.

M. L. Teisserenc de Bort has published in *Ciel et Terre* a summary of his charts showing the mean amount of cloud over the surface of the globe, presented to the Académie des Sciences, Paris, on February 7. The paper is of interest from the fact that up to the present time the amount of cloud has not been treated in the same general way as the other meteorological elements, except for limited areas. The charts in question are based on observations made at 700 stations, and on an immense number of observations collated by the Meteorological Office in Paris. The following are the principal conclusions arrived at: (1) there is a marked tendency in all months towards a distribution of cloud in zones parallel to the equator; (2) when disturbing influences are eliminated it is seen that there is a maximum amount of cloud near the equator, that there are two belts of slight nebulosity from 15° to 35° of north and south latitude, and two zones of greater cloudiness between latitudes 45° and 60°, and that beyond this (so far as can be judged from observations in the northern hemisphere) the sky appears to become clear towards the Poles; (3) these zones have a marked tendency to follow the march of the sun's declination; they are transferred towards the north in spring, and towards the south in autumn; (4) if the charts of nebulosity are compared with isobaric and wind charts it will be seen that the zones of clear sky correspond to the regions of high pressure which lie on each side of the equator, and which give rise on the one hand to the trade winds, and, on the other, to the westerly winds which prevail towards the temperate regions of the two hemispheres. The zones of greater cloudiness extend above the regions of low pressures, viz. near to the equator, on the one hand, and near to 60° of north and south latitude. The distribution of cloud, taken as a whole, appears therefore to be a direct result of the march of the winds, and is regulated by the distribution of the atmospheric pressures.

THE new Industrial Institute at Bromley, Kent, was opened on Saturday last by Sir Lyon Playfair. Hitherto, he said, the country had prided itself upon the practical knowledge of its artisans, but it had relied too entirely upon that knowledge, and the consequence had been that countries which nurtured the intellects of their people had stepped in, and with their superior mental education had shown the world that the competition of the day was not one of local advantages, such as the possession of raw material applicable to industries, but a competition of intellect. England was realizing her position now, and training her sons by technical schools to compete intellectually with the countries round her, from whom she had learnt her lesson.

Science lately invited certain eminent American authorities on education to discuss in its columns the question, "What industry, if any, can profitably be introduced into country schools?" Mr. Samuel G. Love writes enthusiastically on the effects which may be produced on children by industrial or manual training. It "opens a way," he thinks, "to interest them, to develop and employ their perceptive faculties, and to make the otherwise unattractive experiences of school life cheerful and pleasant." As for the particular kinds of industry that may be most advantageously introduced, he contents himself with the general statement that "there are many things that can be done with profit in any and all schools; and, as soon as the pupil enters upon school life, one of them should be taken up, and each carried forward one after the other, just as the subjects of study are taken up and completed." Mr. Francis A. Walker is more precise. He proposes that approved methods of the Kindergarten should be carried upwards through the primary grades; that at the age of twelve, or thereabouts, there should be semi-weekly exercises with tools, preferably wood-working tools, and in clay-modelling; and that at the age of about fourteen, exercises in metal-working should be begun. Mr. Charles H. Ham takes a wholly different view. He objects to the introduction of "industrial features" into courses of popular education in rural districts, partly because industrial training is very costly, but chiefly because children in the country learn so many things in their ordinary work and play that they do not seem to him to need any special industrial training at school.

THE additions to the Zoological Society's Gardens during the past week include two Green-winged Doves (*Chalcophaps indica*) from Penang, presented by Mr. S. A. Clarke; two Alpine Newts (*Molge alpestris*) from Algiers, presented by Mr. Alban Doran; twenty Ruffe or Pope (*Acerina cernua*) from British fresh waters, presented by Mr. T. E. Gunn; a Whinchat (*Pratincola rubetra*), British, two White-faced Tree-Ducks (*Dendrocygna viduata*) from Brazil, purchased; two White-necked Storks (*Dissura episcopus*) from West Africa, two Demoiselle Cranes (*Grus virgo*) from North Africa, received in exchange; a Gayal (*Bibos frontalis* ♂), a Persian Gazelle (*Gazella subgutterosa* ♂), born in the Gardens.

OUR ASTRONOMICAL COLUMN.

THE ORBIT OF THE MINOR PLANET EUCHARIS.—Dr. L. de Ball has published, in *Mémoires de l'Académie Royale de Belgique*, tome xlix., an investigation of the orbit of *Eucharis* (No. 181), deduced from all the available observations made during the years 1878 (the year of its discovery) to 1886 inclusive. The discussion of the orbit of this minor planet is of considerable interest, as in part of its path it approaches Jupiter, and its consequent perturbations will afford material for a determination of the mass of that planet. To attempt such a determination at present would be premature, but a necessary preliminary to it is the determination of a sufficiently accurate orbit for the perturbed planet, and this is furnished by Dr. de Ball in the paper before us. The perturbations due to Jupiter and Saturn, using Bessel's values of the masses, have been taken into account, and great pains have been taken to reduce the places of the comparison-stars used to a uniform system—that of Auwers's Fundamental Catalogue. The great mass of observations discussed in this paper are equatorial observations; a considerable number of meridian observations made with the Washington transit-circle in 1878 are, however, also discussed. These do not harmonize very well with the equatorial observations, and Dr. de Ball is led to the conclusion (for which he is unable to account) that the corrections to reduce the Washington meridian observations to the system of the Fundamental Catalogue deduced from fundamental stars are not applicable to the observations of *Eucharis*, and gives the latter consequently a very small combining weight. But this want of harmony it doubtless due to the circumstance that the observations of fundamental stars are made in a bright field, whilst those of the planet must have been made in a dark field with illuminated threads—a difference which is quite sufficient to account for such a systematic discordance as Dr. de Ball has found to exist.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1887 *MAY* 8–14.

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on May 8.

Sun rises, 4h. 22m.; souths, 11h. 56m. 20·1s.; sets, 19h. 31m.; decl. on meridian, 17° 5′ N.: Sidereal Time at Sunset, 10h. 36m.

Moon (at Last Quarter on May 14) rises, 7h. 24m.*; souths, 0h. 26m.; sets, 5h. 19m.; decl. on meridian, 13° 41′ S.

Planet.	Rises. h. m.	Souths. h. m.	Sets. h. m.	Decl. on meridian. ° ′
Mercury	3 56	10 43	17 30	8 29 N.
Venus	6 1	14 30	22 59	25 10 N.
Mars	4 16	11 44	19 12	16 2 N.
Jupiter	17 30	22 44	3 58*	9 42 S.
Saturn	8 5	16 13	0 21*	22 17 N.

* Indicates that the rising is that of the preceding evening and the setting that of the following morning.

Variable Stars.

Star.	R.A. h. m.	Decl. ° ′		h. m.	
U Cephei	0 52·3	81 16 N.	May 9,	3 19	*m*
			,, 14,	2 59	*m*
U Monocerotis	7 25·4	9 33 S.	,, 9,		*M*
W Virginis	13 20·2	2 48 S.	,, 12,	2 0	*m*
δ Libræ	14 54·9	8 4 S.	,, 14,	3 36	*m*
U Coronæ	15 13·6	32 4 N.	,, 14,	19 50	*m*
S Libræ	15 14·9	19 59 S.	,, 13,		*m*
U Ophiuchi	17 10·8	1 20 N.	,, 9,	3 22	*m*
			and at intervals of	20 8	
U Sagittarii	18 25·2	19 12 S.	May 8,	20 0	*m*
R Scuti	18 41·3	5 50 S.	,, 13,		*M*
η Aquilæ	19 46·7	0 43 N.	,, 8,	0 0	*M*
S Sagittæ	19 50·9	16 20 N.	,, 14,	1 0	*m*
U Cygni	20 16·1	47 32 N.	,, 13,		*m*
W Cygni	21 31·8	44 52 N.	,, 9,		*M*
S Cephei	21 36·6	78 7 N.	,, 13,		*m*
δ Cephei	22 25·0	57 50 N.	,, 10,	0 0	*m*

M signifies maximum; *m* minimum.